essentially concedes that building owners typically offer rates and terms that discriminate against CLECs. *See* AT&T Building Access Comments at 7.

As AT&T has documented, negotiations with building owners increasingly drag on, sometimes for as long as 18 months. AT&T Building Access Comments at 15. And then, even after endless negotiations with respect to a given MTE facility, AT&T often must start over at square one because some MTE owners will seek to renegotiate and water down clauses that they previously accepted. Sometimes this conduct can be explained by the existence of preferential marketing agreements between the MTE owners and the ILECs, which create incentives for the MTE owner to limit the number of choices available to its tenants. *See id.* at 18-19.[128]

AT&T now maintains internal statistics on "breakage" – *i.e.*, instances in which AT&T initially won a customer to be served over AT&T-deployed loops, but where AT&T ultimately could not deploy the loops because negotiations with the building owner were terminated. Among the problems AT&T has encountered in the last six months are building owners who will not return AT&T calls regardless of level of persistence applied, building owners who are only willing to provide access in exchange for AT&T's agreement to unreasonable terms, including highly inflated monthly fees for placing AT&T facilities in a building, and other concerns about building access arising from the events of September 11, 2001. *See* Fea-Giovannucci Reply Dec. ¶ 65.

The comments confirm that building access continues to be a significant barrier to entry. For example, WorldCom explains (at 20) that "CLECs are usually asked to pay unreasonable

[128] *See also* Brief of the FCC as *Amicus Curiae*, *TCG* v. *City of White Plains*, No. 01-7213 (L), p. 4 (2d Cir.) (filed June 12, 2001) (noting that TCG began seeking permission to provide service in White Plains, New York in 1992 – almost 10 years ago – and is still unable to obtain it); Fea-Giovannucci Reply Dec. ¶ 36 (issue is still unresolved).

fees or high rents for access to multi-tenant environments (MTEs), while the ILECs are able to gain such access for free." WorldCom notes in particular (*id.*) that "[o]ne landlord in New York, for example, is seeking $100,000 per year to provide WorldCom access to the landlord's building."[129] Indeed, as Professor Willig explains (¶¶ 62-63), this is not surprising given the ILECs' substantial first mover advantage and the fact that a landlord has reduced incentives to allow a second LEC into its building once it has already arranged for the availability of telephone service from the ILEC.

Equally important, even commercial landlords that permit building access almost always limit CLECs to a "fiber to the floor" arrangement, which allows CLECs to use their fiber only to serve a specific customer. *Id.* ¶ 30; Lesher-Frontera Dec. ¶ 42. These restrictions further impair a CLEC's ability to offer service, because they significantly reduce the number of cases in which a CLEC can aggregate sufficient demand to justify any loop construction at all. This, in turn, of course, also affects the CLECs' ability to reduce their unit costs by sharing the facility among more customers. As AT&T showed, a substantial majority of the buildings to which it provides its own fiber are limited to "fiber to the floor" arrangements, because "AT&T, unlike the incumbent, is rarely permitted by the landlord to locate equipment in a building's common space and be assured of the opportunity to provide service promptly to other customers in the building other than by leasing ILEC facilities." Lesher-Frontera Dec. ¶ 42. Further, even customers served by AT&T fiber to a building "will often allow AT&T only to place 'new' service on the AT&T fiber and require that existing services continue to be provided using the ILEC loop

[129] WorldCom further explains that although the Commission established certain requirements to increase CLECs' access to MTEs in its Competitive Networks Order, competitive telecommunications service providers have continued to experience difficulties in obtaining non-discriminatory access to MTEs. WorldCom at 33-34.

facility (or its access equivalent), because [they do] not want to risk any service interruption that might result from shifting the existing services to the AT&T-provided facility." *Id.* Thus, a substantial percentage of the buildings connected to AT&T fiber contain customers that AT&T also serves via ILEC special access. *Id.*

In addition, CLECs also face barriers to entry in the form of discriminatory treatment related to municipal rights of way. Negotiation of a franchise agreement often takes four to six months, but AT&T has had negotiations (and accompanying litigation) that have lasted for years. *See* Fea-Taggart Use Restrictions Dec. ¶ 10. Although some states (such as California) have recently passed favorable rights of way laws, local municipalities often continue to charge exorbitant rates for rights of way or impose other discriminatory conditions. *See* Fea-Giovannucci Reply Dec. ¶¶ 30-37. Many of these discriminatory practices were recently documented by the Rights-of-Way Working Group. *See* AT&T at 143; Rights-of-Way Working Group *Ex Parte*, CC Docket Nos. 98-146, 96-98 and WT Docket No. 99-217 (filed Jan. 25, 2002).

* * *

For all of these reasons, CLECs' are severely impaired in their ability to offer service without ubiquitous access to unbundled high-capacity loops. High-capacity loops, like copper-based loops, are characterized by enormous economies of scale and scope, represent sunk costs that cannot be recouped if the CLEC is unsuccessful and have natural monopoly characteristics. *See USTA*, 290 F.3d at 426-28.

While there are a handful of isolated cases in which CLEC deployment could possibly be justified, there is no basis on which the Commission could fashion a crude "triggers" or other methods of partially denying access to high-capacity loops. Clearly, this would entail expending

substantial regulatory intervention to regulate exceptional situations covering at maximum a subset of an estimated 50,000 buildings scattered across the country where CLECs – often based on their own unique positions – might find the right conditions supporting a fiber loop build. As the New York PSC has found, Verizon's network serves 7354 buildings in LATA 132 over fiber while CLECs serve fewer than 1000 buildings.[130] Any attempt to identify *which* commercial buildings randomly distributed in downtown areas would potentially support a CLEC-deployed loop would be an administrative nightmare. More importantly, any broader trigger would be grossly overinclusive.

Second, even if it were possible to accurately identify the small set of buildings that could theoretically support CLEC-deployed loops, the question of whether a CLEC could *actually* deploy a loop to that building depends upon many other geographic, customer and building-specific issues, each of which is situation-specific and unpredictable. For example, whether a CLEC can actually build a loop to a location depends on:

> (1) whether the CLEC can win a sufficient revenue commitment from a customer (in terms of not only size but also duration, including the willingness to transfer to a new facility) so as to warrant the possible construction of a facility;
>
> (2) whether the CLEC has ready access to a useable fiber capacity close to the building that makes the fiber extension economically feasible;
>
> (3) whether the CLEC can obtain the necessary funding to construct the facility at a reasonable rate;
>
> (4) whether the local municipality timely grants the necessary rights of way or forces the CLEC into protracted and costly litigation with the municipality and/or to pay excessive costs for the right of way ;
>
> (5) whether the CLEC can obtain timely permits to build the proposed facility;

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[130] *Opinion and Order Modifying Special Services Guidelines for Verizon New York Inc., Conforming Tariff, and Requiring Additional Performance Reporting*, Case Nos. 00-C-2051, at 7 (NYPSC June 15, 2001).

(6) whether the landlord will permit building access or, instead, attempt to block access or impose exorbitant fees or other discriminatory conditions; and even if access is permitted, whether it will be limited to specific customers or floors; and

(7) whether the customer cancels its order because it is unwilling to wait for the CLEC to build loops; and related problems.

The Commission simply has no way to predict whether any of these barriers to entry will manifest themselves in any particular situation. Thus, there is no viable "trigger" available to identify the limited circumstances when denying unbundled access to high-capacity loops would not impair CLECs in an area. The instances in which CLECs are truly unimpaired are so isolated, so few and far between, and so dependent on a variety of unpredictable human and administrative factors that the Commission cannot reasonably design a trigger that would achieve the desired end without being prone to manipulation to the incumbent's advantage. Thus, the Commission should therefore find that unbundled high-capacity (*i.e.*, fiber) loops must remain available on a nationwide basis.

3. The ILEC Report's Claim That CLECs Have Widely Deployed Their Own Fiber Loops Is Patently False.

Undaunted by these manifest realities, the ILECs persist in attempting to show that competitive LECs have ubiquitously deployed high-capacity fiber loops, on the theory that such deployment would demonstrate that CLECs would no longer be impaired if the ILECs were not required to offer such facilities as UNEs. *See* ILEC Report at IV-1-7. The ILECs' extraordinarily sweeping claims are wrong; indeed, they border on the frivolous. Unlike the evidence provided by competitors, no ILEC affiant swears to the accuracy of a single one of their "factual" assertions. As in past proceedings, the ILECs' attorneys have cobbled together a so-called "Fact Report" that purports to be a compendium of references to various newspaper articles, Internet websites, and financial reports. Although these references are apparently designed to give the Report an air of independent confirmation, in fact the Report's statistics and

conclusions are often not to be found in the cited sources. Rather, the Report manipulates (and sometimes simply misstates) the data in those sources for the purpose of creating sound-bite statistics the ILECs then include in their comments.

The ILEC Report's conclusions, however, are deeply flawed and fundamentally unreliable, and this is particularly true of its claims with respect to loop deployment. Most strikingly, the ILECs make the remarkable claim that competitive LECs have deployed between 11 and 19 million of "their own loop facilities" (Verizon at 114; SBC at 99), and that CLECs "are using alternative last-mile facilities to serve the vast majority of their large business customers" (SBC at 99). The ILECs also claim that competitive LECs can easily build loops to extend their fiber networks to individual buildings whenever they need to do so. These claims cannot withstand even the most cursory scrutiny.

CLEC-Deployed Loops. The ILEC Report asserts that CLECs have deployed between 11 million and 19 million of their own loops to serve business customers. The ILECs' logic is as follows: "CLECs serve no fewer than 13 million and likely closer to 20 million business lines using their own switches, yet they have obtained only 1.5 million stand-alone unbundled loops to serve business customers." ILEC Report at IV-1. According to the ILECs, this means that competitive LECs must be serving all of the remaining lines with self-deployed loops.[131] Each step of this argument is demonstrably wrong, especially the last, because it is obvious that CLECs – at the ILECs' own insistence – have generally been forced to use *special access*, *not* self-provided loops, to serve these customers.

[131] *See, e.g.*, Verizon at 114 ("CLECs provide between 11 and 19 million business lines over their own loop facilities").

Competitive LECs do not serve even close to 13 million business lines (much less 20 million) with their own switches. The Commission has established a regular data-gathering process (Form 477) that is designed to determine how many lines competitive LECs serve. Rather than relying on these Commission data – which are attested to by the reporting carriers and would be the obvious source to consult – the ILECs have concocted alternative methods of calculating competitive LEC lines, using data gathered for entirely different purposes, and jury-rigged to ensure high estimates of competitive LEC lines. These alternative methods are irredeemably flawed, and the Commission should reject them out of hand.

First, the ILECs use E911 database listings to derive their estimate that competitive LECs serve 13 million business lines with their own switches. *See* ILEC Report, App. A, at A-2-3. Using information in E911 databases to estimate competitive LEC line counts, however, is inaccurate for many reasons.[132] For example, AT&T's protocol is to report to the E911 database *every* telephone number behind a PBX switch, including direct inward dial ("DID") numbers, when a customer migrates from an ILEC to AT&T. Because AT&T does not know which ported telephone numbers are DID numbers, AT&T routinely loads *all* telephone numbers into the E911 database to ensure that the database includes all lines that are necessary for prompt emergency response. This practice results in the E911 database including a substantially larger number of telephone numbers than the actual facilities needed to provide the service. *See* Lancaster-

[132] The ILEC Report erroneously contends that using E911 databases is a standard and well-accepted method for determining competitive LEC line counts. *See* ILEC Report, App. A, at A-2-3. In fact, AT&T and others have challenged the use of E911 databases in state proceedings. *See, e.g., Investigation by the Department on its own Motion into the Appropriate Regulatory Plan to Succeed Price Cap Regulation for Verizon New England,, Inc.*, DTE 01-31, Supplemental Surrebuttal Testimony of Deborah S. Waldbaum of Behalf of AT&T Communications of New England, Inc. (Mass. DTE, Nov. 13, 2001).

Morganstern Reply Dec. ¶ 12.[133] Area code overlays can also cause competitive LEC lines to be overstated, because in such circumstances competitive LECs often load numbers from *both* area codes into the E911 database to ensure emergency response. *See id.* ¶ 13. Further, ILECs and competitive LECs follow a wide variety of methods when submitting numbers to E911 databases, and as a result the E911 databases do not provide a more accurate count of competitive LEC lines than the Commission's Form 477 information, in which all parties follow the same methodology. *See id.* ¶ 10.

The ILECs' other estimate – that competitive LECs may have as many as 20 million business lines – is based on a fundamentally flawed analysis of interconnection trunk data. The ILEC Report begins with the observation (at A-3) that "CLECs have obtained approximately 9 million interconnection trunks." The ILECs then assume that competitive LECs have 2.75 lines for each trunk, and that competitive LECs therefore serve a total of 23 million lines with their own switches (20 million of which, they say, are business lines). This assumption is based on "internal studies that one Bell company (SBC) performed in 1998," which assume that 65% of competitive LECs' customers are ISPs with a 1:1 line-to-trunk ratio and 35% are business customers with a 6:1 line-to-trunk ratio. ILEC Report, App. A at A-3. This methodology is riddled with flaws. In particular, the ILECs' assumptions that trunk utilization is 100 percent and that the CLEC line-to-trunk ratio is 65 percent are both highly unrealistic, and both have the effect of substantially overstating the number of CLEC lines. *See* Pfau Reply Dec. ¶ 25.

[133] AT&T's Network engineering standards allow for up to 500 DID telephone numbers for each T-1 facility purchased by a customer. AT&T may not include DID numbers when a customer uses telephone numbers from a block of numbers assigned to AT&T because AT&T has specific information on which numbers are only DID.

The ILECs' further attempt to "convert" these line counts into voice-grade equivalents is even more preposterous. The ILEC Report asserts that, although CLECs serve between 13 million and 20 million lines with their own switches (which is incorrect), these line counts are in fact conservative, because "12 of the CLECs included in that total supply over 156 million voice-grade equivalent *circuits*." ILEC Report at IV-2 & App. A. Indeed, the ILECs accuse the competitive LEC industry of systematically undercounting its lines when it reports them on their Form 477s, which the ILECs attribute to a failure to follow the Commission's guidelines on the calculation of voice-grade equivalents. *See* ILEC Report, App. A at A-1. There is no merit to these irresponsible accusations regarding data that are submitted under oath to the Commission.[134] Indeed, if anything, the Commission has expressly indicated that competitive LECs are inadvertently *overstating* their facilities-based lines.[135]

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[134] CLECs also have no economic incentive to engage in regulatory gamesmanship and underreport their line counts. The CLECs' ability to obtain construction funding is directly related to their ability to obtain (and retain) customers using those facilities. Thus, they have no incentive to underreport, which would lead to even more difficult financing problems.

[135] *See* FCC Common Carrier Bureau, Industry Analysis Division, *Local Telephone Competition: Status as of June 30, 2001*, at 1 n.3 (Feb. 2002) ("[i]n general, local exchange and exchange access lines provisioned over facilities (other than dark fiber) and services obtained from another carrier are not the reporting carrier's 'own facilities' for purposes of FCC Form 477, irrespective of whether those facilities or services are obtained under interconnection arrangements, under tariff, or by other means. In particular, owning the switch that provides dialtone (and other services) over a UNE loop leased from another carrier does not qualify a line as being provisioned over the reporting carrier's own facilities. We believe the reports of at least some CLECs are not consistent with these directions").

Similarly, the ILECs' reference to a recent AT&T statement that AT&T serves "2.7 million lines and 30 million voice-grade equivalents (VGEs)" *see* ILEC Report at IV-2, misinterprets the cited data. The "30 million VGEs" do not represent a "conversion" of the 2.7 million voice lines into VGEs. On the contrary, they consist mostly of *additional* services, principally private line data services that are typically OC-3, OC-12, or OC-48 circuits. AT&T's 2.7 million business voice lines are included within the total 30 million VGEs, but the statement broke them out for the purpose of accurately distinguishing between AT&T's *local* service lines and its *overall* set of services. This is fully consistent with the data AT&T has provided to the

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But even assuming the above estimates were correct (and they are not), there is a much more glaring and self-evident hole in the ILECs' logic. In fact, there is no validity to the ILECs' basic underlying assumption, *i.e.*, that if a line is not served with an unbundled loop it must be served by a CLEC-deployed loop. As the ILECs well know, a large majority of the CLECs' large business customer locations are not served by CLEC-deployed loops, but rather the loop functionality is provided through the use of ILEC special access services (*i.e.*, channel terminations). Indeed, the ILECs' assumption that such lines would be self-deployed loops is deeply ironic, considering the pitched battle ILECs have waged for the last six years to force CLECs to purchase special access circuits instead of UNE loops in such cases. And notably, when a competitive LEC uses its own switch combined with special access services to provide local service, it reports those numbers to the E911 database just as it would if it had deployed its own loops. This completely refutes the ILEC assumption that the mere fact a number resides in the E911 database indicates how a carrier establishes connectivity with an end-user. *See* Pfau Reply Dec. ¶ 28.[136]

Rather than relying on the ILECs' Rube Goldberg methodologies, the Commission should look to State commission fact-findings and sworn testimony from competitive LECs, all of which demonstrate directly that competitive LECs have deployed very few of their own loops. For example, the New York PSC expressly finds that "Verizon continues to be the dominant

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Commission in its Form 477s. Indeed, the ILECs are comparing apples to oranges. The CLEC estimates of voice-grade equivalents, which are cited by the ILECs, are estimates that combine local lines with private line access. The Commission's Form 477 directions specifically instruct carriers to report only local access lines that can connect to the local public switched network.

[136] The same is true of the ILECs' flawed interconnection trunk method; the mere existence of an interconnection trunk does not in and of itself indicate whether the CLEC has constructed its own loops. *See* Pfau Reply Dec. ¶ 27.

provider of high-capacity loops used to provide service to large business customers," and that "[e]ven in lower/midtown Manhattan, Verizon facilities (retail and wholesale) still serve over half of all special service circuits." New York at 5; *see also* ASCENT at 41-42 (the New York PSC found that Verizon had fiber or copper facilities present in "virtually all" of the over 220,000 "mixed use, commercial, or public institutions" in New York City, while competitors had brought fiber to "a maximum of 900" such premises). Similarly, California "urges the FCC to retain the unbundling requirement that ILECs must provide DS-1 loops on a wholesale basis to CLECs," which is "crucial because CLECs purchase DS-1 loops solely from the ILEC"; "[t]here is no alternative supplier." California at 19.

Competitive LECs also demonstrate that actual loop deployment is minimal. For example, AT&T has provided testimony that it has no choice but to obtain the vast majority of its loops from the ILECs. *See* Fea-Taggart Use Restriction Dec. ¶ 6. Similarly, the results of CCG Consulting's survey of CLECs confirms that CLECs have established fiber connections to a tiny fraction of buildings in six representative cities and that their use of such facilities represents ponly a trivial amount of their capacity. *See* CCG Consulting, Inc., "State of CLEC Competition," at 6 & Table 3 ("CCG Report"). Other competitive LECs confirm AT&T's findings. *See, e.g.*, WorldCom at 16-17 ("WorldCom alone purchases DS-3 special access circuits from the ILECs to thousands of buildings that are not connected to CLEC networks. . . . The vast majority of the buildings where WorldCom serves customers using DS-1 circuits are not connected to CLEC networks"); Covad at 29 ("although some CLECs have laid fiber rings to serve key buildings in the downtown areas of major cities, these facilities in no way approach the ubiquity of the ILEC's loop plant"); Eschelon at 21 ("[n]inety-four percent of Eschelon's T-1 lines are obtained from ILECs"). *See also* Allegiance at 20 ("[t]here simply has not been a

significant amount of actual non-ILEC deployment of high-capacity loops"). These State commission findings and sworn competitive LEC testimony are far more probative than the ILECs' unsworn and ill-conceived methods for assessing competitive LEC loop deployment.

Feasibility of Building New Loops. Notably, the ILECs have backed off of their earlier insupportable claims, made only a year ago, that competitive LECs have built their own loop facilities to 175,000 unique buildings. *See* USTA, "Competition for Special Access Service, High Capacity Loops, and Interoffice Transport" at 11 (filed April 5, 2001). The ILECs now acknowledge that certain CLECs have estimated that the number of unique office buildings served entirely by their fiber networks is no more than roughly 30,000 buildings nationwide – which, as they fail to mention, would be a tiny fraction of the whole if true. *See* ILEC Report at IV-4; *see also* WorldCom at 6 ("WorldCom, using its own facilities and those of the CLECs with whom it has business relationships, can reach only a few tens of thousands of buildings"). And as the CLECs' sworn testimony in this proceeding and the CCG Report suggest, CLECs in fact likely serve well under 30,000 buildings with their own fiber loops. *See* Frontera-Lesher Dec. ¶ 41 (AT&T serves approximately 6000 buildings); CCG Report at 6 (CLECs have established connections to a tiny fraction of buildings in six representative cities).

Nonetheless, the ILEC Report claims that new entrants are "clearly capable" of serving more buildings "than they currently do," but the ILEC Report's support for that assertion consists almost entirely of a complete misquote of a Commission appellate brief. *See* ILEC Report at IV-4 n.17 (citing the Commission's brief in the appeal of the *Pricing Flexibility Order*). In fact, the cited statements in the brief refer only to interoffice transport (not loops). And critically, the only point made in the brief is that once a competitive LEC *has already deployed* fiber interoffice transport facilities, the capacity and number of customers served *on*

those specific facilities can be readily increased. By contrast, the Commission brief says nothing about a CLEC's ability to *construct* a transport facility and the Commission has consistently recognized that deployment of loops is even more difficult than the deployment of transport, because loops serve only one location, cannot be redeployed elsewhere (and thus are far more likely to be stranded), and that deployment of loops is therefore inherently far less economical (regardless of whether a carrier already has a transport network). *See Pricing Flexibility Order* ¶ 102 (loops "serve only a single end-user"); *UNE Remand Order* ¶ 183.

In sum, the ILEC Report's claims regarding CLECs' actual or potential deployment of loops, including high-capacity fiber facilities, are more fiction than fact and do not support a finding that there are any areas or general circumstances in which it would be reasonable to limit CLECs' access to unbundled fiber loops.

VII. THE COMMENTS REINFORCE THAT CLECS ARE IMPAIRED WITHOUT ACCESS TO THE FULL FEATURES, FUNCTIONS, AND CAPABILITIES OF A UNIFIED LOOP, AND THERE ARE NO RATIONAL POLICY BASES UPON WHICH TO DENY ACCESS TO SUCH LOOPS.

A. Introduction And Summary.

For over two years, AT&T and other CLECs have repeatedly demonstrated that competitive carriers are entitled to unbundled access to the ILECs' unified loop element.[137] The

[137] *See, e.g., Deployment of Wireline Services Offering Advanced Telecommunications Capability, et al.*, CC Docket Nos. 98-147, 96-98, AT&T Petition for Reconsideration of the Third Report and Order in CC Docket No. 98-147, Fourth Report and Order in CC Docket No. 96-98 (filed Feb. 9, 2000); *Application by Southwestern Bell Telephone Company, and Southwestern Bell Communications Services, Inc. d/b/a Southwestern Bell Long Distance, Pursuant to Section 271 of the Telecommunications Act of 1996 to Provide In-Region InterLATA Services in Texas,* CC Docket No. 00-65, Pfau-Chambers Dec. (filed Apr. 26, 2000); *Deployment of Wireline Services Offering Advanced Telecommunications Capability, et al.*, CC Docket Nos. 98-147, 96-98, AT&T Comments on the Second Further Notice of Proposed Rulemaking and Fifth Further Notice of Proposed Rulemaking (filed Oct. 12, 2000) ("AT&T *Fifth FNPRM* Comments"), AT&T Reply Comments on the Second Further Notice of Proposed Rulemaking and Fifth Further Notice of Proposed Rulemaking (filed Nov. 14, 2000) ("AT&T *Fifth FNPRM* (continued . . .)

arguments on this issue are straightforward and, at root, quite simple and compelling. Moreover, they have already been validated by state regulatory action in Illinois, Wisconsin, and Texas[138] and, as shown above, are specifically supported by several State commission commenters. *See supra* Part V. But the Commission has still not yet acted.

In the comments here, AT&T and other CLECs have again provided clear and essentially uncontroverted evidence that competitors, who lack the ILECs' existing customer base and facilities, cannot practically or economically replicate the loop element, "unified" or otherwise. Indeed, the unrebutted evidence shows that CLECs' impairment relating to unified loops is significantly greater than the impairment related to ordinary copper loops. And although the ILECs offhandedly assert that the CLECs could avail themselves of remote terminal ("RT")-based collocation or other alternatives to access copper subloops in a Next Generation DLC ("NGDLC") architecture, they have never seriously challenged AT&T's impairment showing.[139]

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Reply Comments"), AT&T Comments on the Third Further Notice of Proposed Rulemaking and Sixth Further Notice of Proposed Rulemaking (filed Feb. 27, 2001) ("AT&T *Line Sharing Recon. Order* Comments"), AT&T Reply Comments on the Third Further Notice of Proposed Rulemaking and Sixth Further Notice of Proposed Rulemaking (filed Mar. 13, 2001) ("AT&T *Line Sharing Recon. Order* Reply Comments").

[138] Order on Rehearing, *Illinois Bell Telephone Company Proposed Implementation of High Frequency Portion of Loop (HFPL)/Line Sharing Service*, Docket No. 00-0393 (Rehearing) (Ill. Commerce Comm'n Sept. 26, 2001) (subsequent history omitted) ("Ill. HFPL/LS Order"); Final Decision, *Investigation into Ameritech Wisconsin's Unbundled Network* Elements, Docket No. 6720-TI-161 (Wisc. PSC Mar. 22, 2002) ("Wisc. PSC Final Decision"); *Petition of IP Communications Corp. to Establish Expedited Public Utility Commission of Texas Oversight Concerning Line Sharing Issues, et al.*, Docket Nos. 22168, 22469, Arbitration Award (Tex. P.U.C. July 13, 2001) ("TX Arb. Award"). While the Texas Arb. Award remains valid and outstanding, the Texas PUC has not yet issued a final decision in this proceeding because SBC has repeatedly sought to revisit the issue. Most recently, SBC has seized upon the uncertainty generated by the *USTA* decision in an effort to derail State efforts to move forward on this issue.

[139] Incredibly, at the same time that SBC and Qwest maintain that CLECs can deploy adjacent collocations at the Serving Area Interface ("SAI"), both also claim that they should not be
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In particular, the ILECs do not – and cannot – refute the evidence that these alternatives do not provide a practical or economically viable entry strategy. Nor do the ILECs challenge AT&T's showing that unbundled access to unified loops at the central office is both technically and economically feasible. Indeed, SBC's own proposals, some of which were adopted in the *Project Pronto Waiver Order*, fully support these showings.

The D.C. Circuit recognized, as did the Supreme Court, that the loop element is the most difficult to duplicate. *USTA*, 290 F.3d at 426 (*citing Verizon*, 122 S. Ct. at 1672 (describing the loop element as "unnecessarily expensive" and "very expensive to duplicate")). Consistent with this judicial acknowledgment of the difficulty of duplicating loops, AT&T and others have demonstrated that the cost of self-provisioning loop facilities and third-party alternatives renders duplication impracticable. The increased costs that AT&T and others would incur in attempting to duplicate the ILECs' remote terminal/fiber feeder loop plant that are presented in the record are neither "universal" cost disparities applicable to any competitive business nor disparities that equally affect incumbents and new entrants in local telephony. Rather, the cost and other disparities AT&T and others face with respect to unified loops go to the heart of the ILECs' natural monopoly and include, for example, the very high fixed costs of the ILECs' ubiquitous loop plant, which is directly connected to ILEC switches (but not to CLEC switches) and is based on economies of scale and scope that were built up over a century, the sunk cost nature of all loop investment, as well as favorable access to rights of way, buildings and customers.

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required to make even RT or SAI based collocation solutions available because to do so would add an unnecessary expense to their own network infrastructure. *See* Qwest at 49; SBC at 15, 51, 53.

The impracticality of duplicating the ILECs' NGDLC loop architecture does not vary in any meaningful sense across any potential relevant geographic market. There is thus no need to engage in a market-by-market analysis, or to attempt to replicate that result through the adoption of proxy-based "carve outs." The record clearly demonstrates that the potential alternatives to accessing the unified loop – self-provisioning of NGDLC loops, remote terminal collocation, and utilization of spare copper – are prohibitively expensive, provide materially inferior quality access, or are technically impracticable in all circumstances where the incumbents use the same architecture to provide both voice and DSL-based services. Thus, nothing in the record precludes the Commission from adopting a national rule unbundling unified loops. More important, nothing in the record justifies any other result.

Moreover, in sharp contrast to the ILECs' hypothetical, conjectural arguments concerning the availability of practical substitutes, the CLECs' real world experience recounted in the record demonstrates that CLECs are significantly impaired without access to the unified loop. This experience convincingly demonstrates that – as a matter of fact, not conjecture – CLECs cannot enter the market using the ILECs' proposed alternatives. The record evidence is also clear that unbundling the unified loop does *not* result either in materially increased ILEC costs or decreased ILEC (or CLEC) incentives to invest.

Finally, as shown below, the existence of cable modem services does not provide a cognizable alternative to unified loop unbundling. This is true for several reasons. *First*, while the Supreme Court stated that the Commission must consider the existence of alternative elements, it must do so only to the extent that such alternative elements are available to the CLEC. As shown above, the fact that cable companies were able to build outside plant to support franchised video programming services does not demonstrate that CLECs could build

such plant on their own. Moreover, because a requesting CLEC has virtually no ability to obtain access to a cable company's facilities for purposes of providing competing services, the mere existence of cable modem service does not provide any CLEC with a cognizable alternative as defined by the Act.

Second, in addition to this threshold legal issue, the existence of cable modem services also does not address the specific question of impairment under section 251(d)(2), because such service does not provide a CLEC with the ability to provide bundled voice and xDSL services offerings in competition with the ILECs. As noted in AT&T's initial comments, the emerging trend toward the bundling of DSL-based services and voice service puts CLECs at an enormous competitive disadvantage in providing voice services if they cannot also offer DSL-based services in combination with such voice services. AT&T at 93-96 & Willig Dec. ¶¶ 185-86. Because ILECs generally require customers to subscribe to their voice service as a condition of obtaining DSL-based service, CLECs will be effectively walled off from serving such customers unless they too can offer a comparable voice/data package. AT&T at 95-96.

Third, the Commission's delay in assuring CLECs have access to unified loops has played a significant role in the ILECs' rapid acquisition of a *94% share* of the residential DSL market.[140] And critically, the ILECs are using that dominance to block CLECs' access to voice and other narrowband services used to serve their DSL customers. Without a viable intramodal

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[140] *See* TeleChoice First Quarter 2002 DSL Deployment Summary Chart ("*TeleChoice DSL Summary*") (showing that the ILECs have over 3.5 million DSL residential lines in service (or 82% of the ILECs' 4,338,638 residential and business DSL lines in service) and that CLECs/IXCs have roughly 213,000 DSL residential lines in service (or 39% of the CLECs/IXCs' 546,000 residential and business DSL lines in service)) (available at http://www.xdsl.com/content/resources/deployment_info.asp). Overall, the ILECs serve approximately 90% of all residential and business DSL customers. *Id.*

alternative, the ILECs will continue to use their ever-increasing DSL-customer base to impair local voice competition.

Fourth, to the extent that the Commission chooses to consider intermodal competition as an additional factor in making its analysis under section 251(d)(2), the record – and indeed the Commission's own orders – show that *intra*modal competition from data CLECs motivated the incumbents to implement NGDLC technology, *First Section 706 Report* ¶ 42, rather than ignore it in hopes of maximizing profits on second lines. Further, the market facts show that (1) the ILECs raised prices on DSL service as soon as the data CLECs were thwarted; (2) cable competition did not force the ILECs to retract such increases; and (3) ILECs are calling for still higher DSL rates.[141]

Finally, the record is clear that relying on intermodal competition to preclude CLECs from accessing unified loops would create huge *disincentives* to CLEC investment in packet switches and other equipment needed to provide DSL-based services -- which they must always obtain for themselves even if they get access to unified loops.

AT&T's other arguments demonstrating that unified loops must be unbundled according to existing Commission rules and principles are similarly straightforward and compelling.

First, despite the ILECs' attempts at verbal gymnastics, AT&T has repeatedly demonstrated that there is nothing about the NGDLC (or "unified") loop architecture being installed by the ILECs that changes the basic characteristics of the loop element. Those loops, just like all others, simply provide connectivity between a customer's premises and a distribution

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[141] *See* Vikas Bajaj, *Phone, Broadband Prices Too Low, Verizon Exec Says*, The Dallas Morning News (June 5, 2002) (quoting Verizon vice chairman and president Lawrence T. Babbio, Jr. as stating that digital subscriber lines "should be 40 percent to 50 percent more expensive") (available at http://dsl.newstrove.com/).

frame (or its equivalent) in an ILEC central office. 47 C.F.R. § 51.319(a). They are *not,* as the ILECs have argued, part of "packet switching" functionality. In fact, unified loop facilities connect two and only two points – the customer's premises and the ILEC LSO. No packet switching – or other switching – functionality can possibly occur over such facilities. *See* Gerszberg Reply Dec., Part III. Thus, the loop element, not packet switching, is the relevant reference point for determining whether competitors are impaired without unbundled access to the unified loop.

In fact, AT&T has shown that the ILECs' NGDLC network upgrades are nothing more than the logical extension of network architecture capabilities that were available long before passage of the 1996 Act. While the ILECs have mounted an increasingly aggressive public campaign to sidestep this reality, the fact remains that the loop infrastructure investments that ILECs are making today (and have said they will be making over the next several years) are purely incremental to the ILECs' existing monopoly networks and consist of modifications or upgrades to the feeder portions of *existing* loops (*e.g.*, installing fiber feeder for existing loops and/or new DLC electronics in existing loops).

For example, the ILECs have already made significant DLC and fiber investments over the past decade to provide voice services more efficiently.[142] The ILECs do not seriously dispute the fact that CLECs are impaired without access to the ILECs' DLC-equipped loop infrastructure for voice services. Yet, when ILECs upgrade that loop element to transmit DSL services to customers, the ILECs argue that the addition of certain equipment on the loop – which, in some

[142] *See, e.g.*, RHK, Inc., *Optical Access: North America: Service Provider Competitive Analysis: BellSouth, Qwest, SBC, and Verizon - Deployment and Trends for DLC and PON*, at 26, Figure A-1 (Dec. 2001) ("*RHK Report*") (available at http://www.rhk.com/clientzone/catalog.asp) (providing ILEC DLC deployment history from 1991-2000).

cases, involves only the addition of a RT-based plug-in and an OCD in the central office – magically removes any impairment associated with the upgraded loop element. There is, however, no legal or technical logic to support a claim that CLECs are impaired with respect to the basic loop infrastructure but not impaired when a different line card is employed and a portion of that same infrastructure is connected to an OCD in the LSO. Moreover, as shown in Parts VI.A.1. and VII.B., the addition of NGDLC electronics in locations where DLC is already deployed is simple and straightforward.

Second, AT&T refuted in detail the ILECs' baseless contentions that unbundling obligations reduce investment, either by competitive or incumbent LECs. In fact, BellSouth has already built out DSL capability to over 70% of its customers,[143] and the other RBOCs are rapidly building out to match BellSouth. *See* AT&T at 69-71, 79-84 (and accompanying footnotes). Moreover, as shown above, there is little, if any, additional expense associated with AT&T's unified loop proposal, which only requires the ability to access customers' high frequency signals at a port connection on the OCD in the serving ILEC end office. *See* Gerszberg Reply Dec., Part IV. Moreover, ILECs can provide unbundled access to unified loops without imposing any significant capacity restraints on the network. *See id.* CLECs' incentives to construct their own packet switching and transmission facilities are significantly reduced if they cannot access their customers' telecommunications signals at an ILEC central office. AT&T at 77.

In sharp contrast, the ILECs' position on unified loops has been a model of inconsistency. In March of 2000, when SBC sought the Common Carrier Bureau's concurrence that ILECs

[143] Since the beginning of 2001, BellSouth has increased its broadband coverage from 45 percent to 71 percent of the households it serves. *See* BellSouth Financial Report First Quarter 2002 at 3 (available at http://bellsouth.com/investor/ir_financial.html).

could own and control the two main pieces of NGDLC-related equipment (line cards and OCDs), SBC represented that the functionality associated with that equipment involved *transmission* functions that the Commission had previously determined are subject to ILEC unbundling requirements.[144] Indeed, it expressly stated that the "*primary function* of the OCD is to *concentrate* and *route* data signals to various CLECs rather than to provide retail Advanced Services to customers." *Id.* at 5 (emphasis added); *see also Project Pronto Waiver Order* ¶ 30 ("[t]he heart of SBC's original proposal is its Broadband Offering, which is a combination of network elements provided as a wholesale arrangement" (citation omitted)). In fact, SBC initially provided the Commission with a sample appendix to be added to CLEC interconnection agreements *that proposed to offer Project Pronto as an unbundled network element.* SBC Request, Attachment. SBC, however, has now abandoned this position and argues the exact opposite – that any facilities or equipment used to transmit traffic over the high-frequency spectrum of a loop between a customer's premises and the ILEC central office (and beyond) must be excluded from the Commission's unbundling rules because they constitute "core" packet switching functionality. The inconsistency is telling.

SBC also has had trouble staying "on message" when it comes to the seemingly simple task of characterizing its Project Pronto initiative to investors and regulators in a consistent manner. For example, SBC boasted to investors that *"[t]he network efficiency improvements alone* pay for this [Project Pronto] initiative." *Project Pronto Announcement* at 2 (emphasis

[144] For example, SBC stated that its line card will be used to permit SBC ILECs (and their data affiliates) to achieve the efficiency of sharing a single loop for *both voice and DSL services* and effectively admitted that the functionalities at issue were spectrum splitting, transmission modulation, and delivery of traffic to CLEC networks. Letter from Paul K. Mancini, SBC, to Lawrence Strickling, Common Carrier Bureau, FCC 4-6 (Feb. 15, 2000) ("SBC Request") (on file with the FCC in CC Docket No. 98-141).

added). Specifically, SBC stated that the "capital and expense savings" will total "$1.5 billion annual[ly] by 2004" and that such savings alone "will pay for the *entire* initiative on NPV [net present value] basis" – *i.e.*, irrespective of opportunities for increased DSL revenues. *Id.* 2 (emphasis added).[145] Indeed, SBC claimed that its $6 billion investment was *independently justified* by efficiencies and savings related to the provision of *voice and narrowband services*. *Id.* 2 (indicating that 75% of the Project Pronto investment "will be directed to . . . improvements in the *basic loop infrastructure*") (emphasis added). According to SBC's latest filing to the Commission, however, Project Pronto has somehow devolved into a "risky" $6 billion plan involving an "overlay network of packet-switched facilities and equipment that has no impact at all" on SBC's existing network. SBC at 61.[146]

SBC is not the only chameleon-like speaker on this issue. As recently as February of last year, Qwest told the Commission that it was "important to keep in mind that CLECs still need access to ILEC loops in order to provide DSL services. It would be a serious mistake, in today's marketplace, to allow a situation to develop whereby CLECs were unable to make efficient and cost-effective use of ILEC loops."[147] Here, however, Qwest flip-flops and argues that the

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[145] More recently, SBC claimed that "[s]ince the beginning of 2001, SBC's recurring revenues per DSL Internet subscriber are up 30 percent, and total acquisition costs per gross add are down more than 35 percent." SBC Investor Briefing, *SBC Fourth-Quarter Diluted Earnings Per Share Increase 12.3% to $0.64 Versus $0.57 a Year Ago, Before One-Time Items* (Jan. 24, 2002) (available at http://www.sbc.com/Investor/Financial/Earning_Info/docs/4Q_IB_FINAL_COLOR.pdf).

[146] In contrast, analysts estimate that the largest single component ($3.3 billion) of SBC's Project Pronto initiative is the conditioning of *existing* loops. McKinsey & Company and JP Morgan, *Broadband 2001*, at 69 (Apr. 2, 2001) ("*Broadband 2001 Report*").

[147] Comments of Qwest on Further Notices of Proposed Rulemaking, CC Docket No. 98-147, at 3 (filed Feb. 27, 2001) ("Qwest *Line Sharing Recon. Order* NPRM Comments").

Commission should decline to require unbundling of unified loops in order to encourage the construction of new ILEC "broadband" networks.

BellSouth, for its part, has boasted to the financial community that it has undertaken "the most aggressive DSL deployment strategy in the industry"[148] and it "continues to commit the majority of [its] capital investment to systematically transforming *the core network*."[149] It also recently stated that the incremental cost of upgrading its existing network to deliver DSL-based service is *minimal* because of the fiber investment already made to provide voice services more efficiently.[150] These statements stand in stark contrast, however, to BellSouth's posture before this agency, where it claims that it will have little, if any, incentive to deploy future network upgrades if the Commission requires it to unbundle unified loops.

Thus, the ILECs' speak with two very different voices, depending on the audience. On the one hand, their statements to investors repeatedly tout the benefits of their actual and significant NGDLC investments, noting that data and broadband services comprise their "most powerful growth driver" and that such changes are integral to their embedded networks.[151] On the other, the ILECs' statements to regulators and legislators constantly bemoan the perils of unbundling, and threaten to cancel or cease their investments if they must unbundle. The latter

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[148] BellSouth, *BellSouth Captures 620,500 DSL Customers and Deploys Broadband Capabilities to More Than 15.5 Million Lines*, News Release, Jan. 3, 2002 (available at http://bellsouthcorp.com/investor/archive.vtml).

[149] BellSouth, *Annual Report 2000* at 12 (emphasis added).

[150] *See* Ralph de la Vega, *BellSouth Broadband: Taking the Lead*, Nov. 5, 2001, at Slide 9 ("Taking the Lead") (deployment involves "cost effective expansion *through utilization of embedded network.*") (emphasis added) (available at http://media.corporate-ir.net/media_files/nys/bls/presentations/110501/ delavega/index.htm).

[151] *See, e.g.*, SBC Investor Briefing, *SBC Outlines Action Plans for 2001*, at 2 (Dec. 19, 2000), (available at http://www.sbc.com/Investor/Financial/Earning_Info/docs/2001Update_IB.pdf).

advocacy is sheer posturing. Indeed, it defies all business logic for the ILECs to put an end to further "core network" upgrades that support their "most powerful growth driver," and the facts belie this claim. Even when SBC purported to "stop" deployment of NGDLC in Illinois, it continued to make additional (*i.e.*, fiber and DLC) loop upgrades that could easily be retrofitted to accommodate the "NG" (plug-in cards and OCDs) portion of the Project Pronto upgrade.[152]

The truth here is simple. The ILECs' anti-unbundling impulse is not rooted in the pro-competitive aims of the Act, but in pure self-interest. As the Supreme Court recently found, incumbent LECs "have an almost insurmountable advantage" over their aspiring competitors, especially with respect to "the most costly and difficult part of [the ILEC's network, the] . . . laying down of the 'last mile' of feeder wire, the local loop." *Verizon*, 122 S. Ct. at 1662. These are the very facilities CLECs seek here. The ILECs' extraordinary hostility to unbundling of unified loops – and the lengths to which they have gone to oppose the unbundling of such loop functionality – is premised entirely upon their recognition that they stand to gain substantially more profit if they are the sole providers of DSL-based services. Notably, the ILECs initially made no pretense to the contrary. For example, when SBC first announced its Project Pronto initiative, Chairman Edward Whitacre announced SBC's avowed goal was to ensure that "*only* SBC will have all the pieces" needed to provide the full package of services that consumers want. *Project Pronto Announcement* at 5 (emphasis added).

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[152] *See* Joint CLECs' Initial Brief on Rehearing (Public), Docket No. 00-0393 (Rehearing), at 84 (Ill. Commerce Comm'n Aug. 3, 2001) ("In sum, SBC/Ameritech has continued to deploy all elements of its Project Pronto architecture except the ADLU cards and the electronics for the OCDs during the alleged 'suspension.' At any point, SBC/Ameritech can install the ADLU cards and the OCD cards and Project Pronto will be 'on' again in Illinois without much effort." (summarizing Rehearing Transcript (Keown) at 2420-30)).

But consumers deserve better and the Act requires more. As the Supreme Court recognized, the Act establishes an "entirely new objective of uprooting . . . monopolies" "as an end in itself." *Verizon*, 122 S. Ct. at 1660-1661 (citing H.R. Conf. Rep. No. 104-230, 113 (1996)). Therefore, the Commission cannot rationally act here on the basis of ILEC "spin" designed to increase their monopoly power. Rather, it must act on the basis of the law, the facts and sound pro-competitive policy. In particular, the Commission must reject ILEC strategies designed to permit themselves – and no one else – to offer a full array of telecommunications services, and it should at long last end the uncertainty regarding CLECs' entitlement to access unified loops. New CLEC investment in broadband facilities will surely and permanently be foreclosed if competitors are precluded from offering bundled retail packages of voice and data services to customers, including voice services offered over the high frequency of NGDLC loops.

Accordingly, the Commission should find that CLECs are entitled to unbundled access to the unified loop element. In doing so, the Commission should take the following specific actions:

- find, based upon the uncontested evidence in the record, that connectivity between a customer premises and an ILEC local service office is subject to unbundling, including but not limited to the "unified loop" discussed herein;

- clarify that multiplexing/demultiplexing, coding/decoding, modulating/ demodulating and concentration are a functionality of a loop, regardless of the transmission capacity;

- find, based on the substantial and uncontested evidence, that CLECs are impaired without unbundled access to the unified loop element, including all of the attached electronics used to support the provision of transmission functionality between the incumbent LEC's central office and the customer's premises;

- find, based on the substantial and uncontested evidence, that CLECs are impaired without unbundled access to the unified loop element in all market and customer segments;

- reiterate that a CLEC's right to use the fiber feeder between the customer's home and the ILEC's central office, even when shared among carriers, is included within the definition of the loop, because it is no different from the access afforded to "regular" DLC loops; and

- clarify that the Central Office Terminal ("COT"), optical concentration device ("OCD"), as well as digital cross-connection frames, main distribution frames, fiber distribution frames and similar devices are technically feasible points for access to unbundled loops.

Finally, in order to harmonize its current rules with these findings, the Commission should eliminate the technical error in its current definitions and remove all reference to digital subscriber line access multiplexers ("DSLAMs") from its definitions of the loop (47 C.F.R. § 51.319(a)(1)) and packet switching elements (47 C.F.R. § 51.319(c)(4)).[153]

B. The Comments Reinforce the Prior Showings That CLECs are Impaired Without Access to Unified Loops.

There is no basis for the ILECs' claim that the Commission must make a separate impairment determination before unbundling "unified" loops as opposed to "ordinary" loops. *See, e.g.*, SBC at 49-50. The comments overwhelmingly demonstrate that a unified loop is "just a loop" and provides exactly the same functionality as "ordinary" loops. AT&T at 170-89; Illinois at 4-5; California at 8-10, 16-18; Covad at 54-55; WorldCom at 101-02, 106, 113-17; Sprint at 18-20; GCI at 45; *see also* McLeod at 6; ALTS at 84-86; Maine CLEC at 6-7; Fiber/Switch-Based CLEC Coalition at 72-73. Unified loops simply enable competitors to

[153] In addition, the Commission should ensure that competitors' network needs are addressed in the network planning stage on a par with those of the ILECs. This means that network plans should not presuppose to limit competitors exclusively to functionalities that have been requested by, and made available to, the ILECs (or their affiliates). Further, nondiscrimination in network planning also means that CLECs are entitled to have their own unique needs met on an equivalent basis.

access all of their customers' telecommunications signals at a centralized point – the ILEC central office. Without unbundled access to this functionality, CLECs would have no alternative but to access their customers' distribution *sub*loops, rather than their loop UNEs, at a location somewhere in between the customer's premises and the central office. In addition to the fact that a "subloop" UNE provides a CLEC with significantly less functionality than a loop UNE (since it ends at a remote point from the serving central office), AT&T also has already demonstrated that such access is prohibitively expensive, materially inferior and/or technically impracticable, in all circumstances. AT&T at 192-98; AT&T *Fifth NPRM* Comments at 51-55, 62-63 and Riolo NGDLC Dec. ¶¶ 65-86; AT&T *Fifth NPRM* Reply Comments at 59-67; AT&T *Line Sharing Recon. Order* Comments at 16-20; AT&T *Line Sharing Recon. Order* Reply Comments at 13-17.

Local loops already satisfy, and continue to satisfy, the section 251(d)(2) impairment standard – especially the loop plant that is the subject of this inquiry. *See supra* Part VI. Even the ILECs do not claim that CLECs can provide their own individual loops to residential and small business locations, and the Supreme Court has recognized the "almost insurmountable competitive advantage" that the incumbents' loop facilities provide to the ILECs. *Verizon*, 122 S. Ct. at 1662; *see also USTA*, 290 F.3d at 426. Thus, although access to a unified loop certainly meets the impairment standard for the reasons set forth in AT&T's initial comments and below, the Commission need not make a separate "impairment" determination regarding the unified loop. AT&T Comments at Part IV.A., IV.B.; *see also* California at 17-19; WorldCom at 100-02; Sprint at 20-25; Covad at 27-28, Allegiance at 19-26; Fiber/Switch-Based CLEC Coalition at 71-81; ALTS at 40-59; UNE Platform Coalition at 40-43. The comments confirm that the increased costs that AT&T and other CLECs would incur in attempting to duplicate the ILECs' fiber-based

loop network are not merely ordinary entry costs or temporary inefficiencies faced by any new entrant. AT&T Comments at Part IV.A.; California at 17; WorldCom at 19-21; Sprint at 20-22; Covad at 27-28; Allegiance at 19, 29-30; Fiber/Switch-Based CLEC Coalition at 73-75; ALTS at 41-45; UNE Platform Coalition at 44-46; *see also Verizon*, 122 S. Ct. at 1662; *USTA*, 290 F.3d at 426. Rather, the impairment showings that AT&T and other CLECs have identified since the Commission released the *UNE Remand Order* (and thus after the close of the record underlying the *USTA* decision) result directly from the fact that the ILECs, by virtue of their long-standing monopolies, have deployed ubiquitous loop facilities that "are the most-time-consuming and expensive network element to duplicate on a pervasive scale." *See UNE Remand Order* ¶ 211.

Although the ILECs assert (typically with meager or no factual support) that CLECs are not impaired without access to unified loops because CLECs are "equally capable" of self-provisioning fiber-based loops and there are other viable alternatives available to the CLECs, SBC at 47, 53-54; *see also* Qwest at 41-46; Verizon at 81-92, they utterly fail to come to grips with the real-world facts, which show that those alternatives are at best theoretically possible, and always uneconomic and impracticable. *See Verizon*, 122 S. Ct. at 1683 (affirming Commission combination rules that are "meant to ensure that the statutory duty to provide unbundled elements gets a *practical* result") (emphasis added). Critically, many commenters join AT&T in demonstrating this essential point. AT&T at 192-203; *see also* Covad at 54-57; Sprint at 21-22, 40-45; WorldCom at 109-13; ALTS at 40-44; Fiber/Switch-Based CLEC Coalition at 73-74. Many, including State commissions and other CLECs, confirm AT&T's recent showing that unbundled access to the unified loop is essential to support mass-market competition. *See id.*; *see also* Illinois at 4-5; California at 8-10, 16-18. In fact, self-provisioning, remote collocation and all-copper loop alternatives are not a reasonable, nondiscriminatory and

commercially viable substitute for unbundled access to the unified loop element in any potential relevant market.

1. The Increased Costs CLECs Would Incur in Attempting to Duplicate the ILECs' Unified Loop Element Render Self-Deployment Uneconomic and Impracticable.

The ILECs and some equipment providers claim that self-provisioning fiber-based loops is a sufficient substitute that justifies excluding unified loops from an incumbent LEC's unbundling obligation under section 251(c)(3). *See, e.g.,* SBC at 4-7; BellSouth at 62. They maintain that CLECs are not impaired without access to a unified loop element because "there is no aspect of [a fiber-based loop] that cannot be deployed by CLECs on the same basis as by ILECs . . ." *See* SBC at 47; *see also* Qwest at 41-46; Verizon at 81-92. Moreover, they assert "ILECs have no unique economies of scale or scope in the deployment of fiber." Verizon at 90 (citation omitted). As their sole support for this claim, these commenters argue that ILECs and CLECs have equal access to rights of way with respect to the deployment of fiber-based loops, *see, e.g.*, Verizon at 90; Qwest at 45, and that CLECs do not need unbundled access to the unified loop element because competitive carriers have already deployed substantial amounts of fiber and packet switches. *See, e.g.*, SBC at 58-59; Verizon at 90. These claims not only miss the main point, they are also patently false.

First, the comments confirm what the Supreme Court and the Commission have understood for years: the ILECs' local loop – regardless of loop type or capacity – cannot be replicated without extraordinary (and virtually always uneconomic) time and expense. *Verizon*, 122 S. Ct. at 1662; *USTA*, 290 F.3d at 426; *see also Michigan 271 Order* ¶ 12; *Local Competition Order* ¶ 378; *UNE Remand Order* ¶¶ 183, 211, 356. In its initial comments and its many earlier comments and replies on the same issues, AT&T has provided detailed analyses demonstrating the increased costs CLECs would incur in attempting to replicate the ILECs' loop

plant (whether copper or a copper/fiber hybrid as used with NGDLC loops), a cost disparity that goes to the heart of the ILECs' natural monopoly. AT&T at 125-34; AT&T *Fifth NPRM* Comments at 54-55, Riolo NGDLC Dec. ¶¶ 79-81; AT&T *Fifth NPRM* Reply Comments at 61-65; AT&T *Line Sharing Recon. Order* Comments at 18-19; AT&T *Line Sharing Recon. Order* Reply Comments at 15. For example, in its most recent comments, AT&T specifically demonstrated that even a CLEC that achieves an implausibly high 30 percent market share in every "cluster" served by an ILEC in a state would have per-line transmission cost investments for loops that could exceed those of the incumbent by 70 percent. AT&T at 128-29. Other commenters provided similar evidence.[154] In contrast, the ILEC commenters have simply ignored these obvious facts. Instead, their arguments consisted of bare assertions that they enjoy no natural monopoly advantages in the deployment of fiber-based unified loops. *See supra* Part VI. But there is nothing inherently different about fiber-fed unified loops that warrants a different finding with respect to self-provisioning by competitive carriers.[155] Indeed, given the increased efficiencies the ILECs enjoy when they deploy such loops, their monopoly advantages are even greater than for standalone copper loop plant.

The impairment analysis that must apply to both "basic voice" DLC loops and unified (or NGDLC) loops is exactly the same. As a threshold matter, no ILEC seriously disputes that CLECs continue to be impaired without access to fiber-fed, DLC-equipped, loops that the ILECs

[154] *See* Fiber/Switch-Based CLEC Coalition at 72-73; Sprint at 20-22; Covad at 27-28 (duplication of the bottleneck loop plant is a multi-billion dollar effort that cannot be undertaken by entities without market share); WorldCom at 19-21 (the cost of construction is at least $1 million per ILEC central office served and multiple-millions for new sub-networks) and HAI Report at 56; ALTS at 42 (building loop plant is prohibitively expensive and time-consuming).

[155] AT&T at 133-34; WorldCom at 101, 103, 113. If anything, the fact that the incumbent can upgrade its capacity at low incremental costs creates huge economic and timing advantages for the ILEC. *See, e.g.,* AT&T at 129-34; WorldCom at 20.

have deployed in significant numbers over the past decade to provide voice services more efficiently. As with traditional copper loops, the combination of the ILECs' ubiquitous embedded network and their control over the local market provides them with insurmountable cost and timing advantages that the CLECs cannot hope to overcome without unbundled access to DLC-equipped loops. *See supra* Part VI. And, as indicated above, the incremental addition of equipment designed to *increase* the efficiency of the loop element (*e.g.*, DLC channel bank units, demultiplexing/multiplexing equipment at the RT and CO; the addition of fiber facilities from the RT to the CO)[156] simply *adds* to the impairment CLECs face if they are denied unbundled access to these loops.

Just as CLECs are impaired without access to DLC-equipped, fiber fed loops, so too are the CLECs impaired without access to unified, or NGDLC-equipped, loops. There is nothing magical about the "NG" portion of a DLC loop element that somehow removes the impairment associated with other loops.

Indeed, the impairment associated with NGDLC loops is at least the same, if not greater, than the impairment related to fiber-fed DLC-equipped, or ordinary copper, loops. The incremental investment associated with upgrading a DLC-equipped loop (which the ILECs admit is an unbundled network element) to an *NG*DLC-equipped unified loop that can be used to transmit both xDSL and voice services to consumers (which the ILECs claim should not be an unbundled network element) involves a relatively modest investment on the part of the ILEC. Thus, once an ILEC has upgraded its loop plant to incorporate fiber-fed, DLC loops for voice

[156] *See supra* Part VI.A.1; *see also* Alcatel, *Litespan – Multiservice Access Platform: Envisioning the New World* (Feb., 2002 at 1) (available at http://www.usa.alcatel.com/telecom/access/pdfs/lsp_pb.pdf) (noting that the ILECs have already deployed its "Alcatel 2000" DLC in remote terminals on a fairly widespread basis in order to improve the efficiency of their voice service offerings).

services, the incremental investment to accommodate DSL technology typically consists of the following: (1) outfitting *existing* RT-based channel banks with additional units to support transmission of xDSL traffic; and (2) an ADSL plug-in (at the RT) and an OCD to demultiplex the DSL traffic at the ILEC's central office. *See Project Pronto Waiver Order* ¶ 4. In fact, the Alcatel website confirms the incremental nature of the ILECs' NGDLC deployment efforts:

- "By outfitting the existing and widely deployed Litespan channel bank with ATM bank control units (ABCUs), both ADSL and traditional Litespan narrowband and wideband services can be provided from the same channel bank." Alcatel, *Litespan: Multiservice access platform*, July 2001, at 4 (available at http://www.usa.alcatel.com/telecom/access/ pdfs/lsp_pb.pdf).

- "While in service, any Litespan channel bank can be upgraded from a TDM-only system to support a 600 Mbps ATM fabric, using the ATM bank control unit (ABCU)." Alcatel, *Litespan ADSL: Integrated POTS and ADSL*, July 2001, at 2 (available at http://www.usa.alcatel.com/ telecom/access/pdfs/lsp_adsl.pdf).

- "The ADLUD4 [the RT-deployed line card with DSLAM and splitter functionality], like all Litespan plug-in channel units, can be used in any standard Litespan channel bank slot." Alcatel, *ADLUD4 Litespan Channel Unit: Quad combo ADSL/POTS/DMT*, July 2001 at 2 (available at http://www.usa.alcatel.com/telecom/access/pdfs/lsp_adlud.pdf).

BellSouth's comments to the financial community further demonstrate that the incremental cost of upgrading its existing loop infrastructure to deliver DSL-based service is minimal because of the fiber and other network investments already made to provide voice services more efficiently. *See* Taking the Lead at Slide 9 (deployment involves "cost effective expansion through utilization of embedded network"). Thus, the "NG" portion of an ILEC's outside loop plant is simply a cost-efficient means to improve the transmission capability of a basic voice DLC-equipped loop element, which the ILECs acknowledge that they are obligated to unbundle.

As with ordinary copper and DLC-equipped loops, the cost and timing advantages associated with the ILECs' unified (or NGDLC) loops are simply too great for the CLECs to

overcome. A recent BellSouth presentation to the investment community demonstrates, very simply, the tremendous monopoly advantage that BellSouth "starts with" by virtue of its vast embedded network (over "4.1 million miles of fiber"; 1,650 central offices; 22,000 SONET Rings) and powerful customer base ("90% of customers are within 12,000 feet of fiber").[157] As of the end of 2000, BellSouth also deployed nearly 44 percent of its total access lines over 44,000 DLC terminals. *RHK Report* at 5-7. Thus, it is not surprising that BellSouth has announced that it can achieve DSL profitability within 4-6 months for business customers and 12-14 months for residential subscribers. *See* Taking the Lead at Slide 19. In contrast, the CLECs have repeatedly demonstrated that they cannot achieve anything remotely close to the cost and timing advantages that BellSouth, or any ILEC, can achieve if the CLECs are forced to duplicate the unified loop element. AT&T at 190-203; Covad at 16-18, 28, 55-56; WorldCom, Dec. of Edwin Fleming ¶¶ 3-14. Nearly all of these same natural monopoly advantages are also present in "greenfield" build-outs. *See supra* Part III.B.

Further, it is simply untrue that ILECs and CLECs have equal access to rights of way. As demonstrated in Part VI.A.1, the ILECs have, by virtue of their century-long monopolies, access to the necessary customer base and rights of way that far exceed those available to CLECs. *See* Paul Davidson, *Cities, Feds Force Firms to Pay for Rights-of-Way: Telecoms Find Laying Cable Can Be Expensive*, USA Today (July 2, 2002) (detailing examples of high-fees, delays, and other roadblocks that CLECs face when seeking rights of way from local governments); *see also* AT&T at 142-46; Covad at 28. And notably, rights of way impairment for unified loops is even greater than the impairment related to ordinary copper loops because of the additional rights of

[157] Bill Smith, BellSouth Presentation at the Goldman Sachs Telecom Issues Conference 2002, May 7, 2002, at Slide 19 (available at http://media.corporate-ir.net/media_files/nys/bls/presentations/bls_050702/sld019.htm).

way and easements on private property needed to self-deploy the remote terminals, SAIs, and fiber feeder associated with unified loops.[158]

The ILECs' claim that CLEC deployment of packet switches and fiber demonstrates that the CLECs have the same opportunities to self-provision fiber-fed loops is similarly unsupported and unsupportable. As a threshold matter, ILEC references to increased packet switch deployment relate only to CLECs' core service delivery networks, which are simply irrelevant to an impairment analysis for unified *loops*.[159] Whether or not CLECs own packet *switches* has no bearing on whether the Commission should exclude from the *loop* definition any facility, feature, or functionality that is used between a customer's premises and the ILEC's central office to transmit a customer's traffic that is *destined* for a switch. Similarly, the ILECs' claims regarding CLEC deployment of alternative fiber facilities are not only wrong, *see supra* Part VI.B.3, they also have no bearing in this context, because the ILECs do not (and cannot) show that existing alternative fiber plant is deployed to serve the mass market customer base for which ADSL services (the DSL service being deployed in ILEC remote terminals) are designed.

The number of packet switches CLECs have deployed is of no moment in determining whether CLECs are impaired without access to unified loops, including the RT-based electronics (*e.g.*, RT-deployed DSLAMs) the ILECs have opted to deploy remotely. CLEC deployment of packet switches in ILEC central offices cannot serve as a proxy for a CLEC's capability to

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[158] As shown in AT&T's initial comments (at 196-198), Verizon has set forth an RT-based proposal (called "TOPIC") that specifically requires the CLEC to obtain all necessary easements, rights of way and zoning requirements. Verizon TOPIC Proposal § 11.2.18.6.3. Because each TOPIC provisioning arrangement is done on an individual case basis (Virginia Arbitration Hearing Tr. at 868 (White)), Verizon's proposal severely impairs the CLECs' ability to provision such arrangements on time to market, as well as cost, grounds.

[159] Moreover, as shown below, SBC's claim (at 58) that the number of deployed packet switches has doubled in recent years is also wrong. *See infra* Part IX.E.

duplicate the *RT-based* DSLAM functionality and other NGDLC electronics – which are *not* packet switching – in unified loops. It is also deeply ironic that the DSLAM functionality is integrated into the very line cards that the ILECs *staunchly oppose allowing CLECs to place in their remote terminals.* SBC at 50-52; *see also* Verizon at 92-94; Qwest at 49 n.127. Moreover, unbundled access to the unified loop element – which is all AT&T is asking for – *requires* CLECs to deploy their own packet switching. Thus, the relevant question is *not* whether the CLECs have deployed packet switches but whether CLECs can *use* the packet switches that they have deployed (or might wish to deploy) to gain access to their customers' traffic at the ILECs' central office – which is the network terminus of *all* "local loops" under the Commission's rules. 47 C.F.R. § 51.319(a).

The answer to that question is, of course an unqualified "no." As the ILECs readily concede, Qwest at 49; SBC at 52, the CLECs have *not* self-provisioned RT-based electronics necessary to provide voice and data telecommunications services to their customers. And as shown below, the comments vividly illustrate the many reasons why CLECs are precluded from doing so.

Similarly, the ILECs' claims regarding CLEC deployment of fiber facilities are both unsubstantiated and misleading. Verizon at 90. There is no evidence to support claims that CLECs can self-provision NGDLC loops to their *mass-market* customers in a commercially reasonable manner. The ILEC Report does not even address whether CLECs have deployed fiber at or near remote terminals in *residential* areas (or directly to customers), rather than along fiber routes between interoffice facilities; nor could they do so. In anticipation of the ILECs' frivolous argument, several CLEC commenters, including AT&T, clearly demonstrated (at 148-52) that competitive carriers do not deploy a significant amount of local intracity fiber at all. *See*

also ALTS at 43-44; Sprint at 22-24; WorldCom at 7, 18. As AT&T demonstrated in detail, the only time that it makes economic sense for a CLEC to deploy fiber-based loops is to serve a location that individually has enormous demand. AT&T at 133-35, 232. That circumstance simply does not apply to the remote, neighborhood-by-neighborhood locations where ILECs have deployed NGDLC loops. No CLEC can expect to aggregate sufficient demand from mass-market customers to offset the enormous cost disparities that result from the ILECs' ratepayer-subsidized economies of scale, scope and density. AT&T at 133-34. And notably, all such costs would be sunk if the CLEC cannot generate sufficient revenues to support such remote installations.

In any event, unbundling the unified loop does not in fact result in significant increased ILEC costs or decreased ILEC (or CLEC) incentives to investment. In particular, SBC claims that the unbundling of unified loops: (1) introduces inefficiencies in the use of DLC infrastructure; (2) jeopardizes fiber feeder capacity; and (3) generates substantial additional costs. *See generally* SBC, Att. C. None of these assertions has merit.

As AT&T explains in the Reply Declaration of Irwin Gerszberg, SBC's proposal to provide retail "Broadband Service Arrangement" over its Project Pronto architecture at UNE-based rates illustrates that its NGDLC architecture permits retail customers to share statistically muliplexed traffic over the same fiber without imposing any significant capacity restraints on the network. Gerszberg Reply Dec., Part IV. In fact, AT&T's unified loop proposal promotes efficient NGDLC port utilization and would not result in any "stranded" NGDLC capacity that could potentially inflate NGDLC deployment costs. *Id.*

Indeed, there is little, if any, additional expense associated with AT&T's unified loop proposal. *Id.*, Part IV.C. AT&T does *not* seek physical, or even virtual, access to ILEC RTs or

SAIs, nor does it seek to have ILECs place AT&T-owned line cards in the ILECs' frames in their RTs. Rather, AT&T seeks only the ability to access its customers' high frequency telecommunications signals at the port side of the ILECs' OCDs) – exactly the same type of configuration that is necessary to implement SBC's obligations under the *Project Pronto Waiver Order*. *Id.*, Part IV. Thus, as shown in the attached Gerszberg Reply Declaration, SBC would only need to provide ports on the OCD to accommodate unbundled CLEC access to a unified loop (which would, of course, be incorporated into the TELRIC-based rate for this element). *Id.* at Part IV. The capital cost recovery of an additional OCD port (which would enable a CLEC to access traffic from all of the RTs subtending the ILEC central office is less than $300. *Id.*, Part IV.C. This is many orders of magnitude less that what SBC asserts is the cost of accessing a NGDLC loop. *Id.*

In sum, the ILECs' makeweight claims are irrelevant and frivolous and must be rejected, especially in light of the CLECs' affirmative demonstrations of impairment.

2. The Comments Provide Further Support that RT/SAI Collocation is Prohibitively Expensive and Technically Impracticable in all Circumstances.

SBC, Verizon, and Qwest all claim that unified loop unbundling is unnecessary because CLECs have the "option" of deploying electronics and accessing the ILECs' copper facilities "near" the RT "on a competitively neutral basis." SBC at 53-54; Qwest at 46; Verizon at 89 n.296. This is nonsense. State commission and CLEC comments provide additional substantial support for AT&T's demonstration (at 190-98) that CLECs simply cannot collocate DSLAMs at (or near) remote terminals or SAIs and string together the fiber feeder and copper distribution portions of the loop in a technically practicable, economically feasible, or commercially timely

manner.[160] As shown below, the impracticability of remote collocation does not vary in any meaningful sense across any potential relevant market or customer segment.

The comments demonstrate that remote collocation (at either the RT or the SAI) is often physically or technically impossible for numerous reasons, including insufficient space to collocate the necessary electronics at RTs, lack of power and HVAC required to deploy remote electronics, and/or the CLECs' inability to efficiently cross-connect their facilities to the ILECs' facilities within a remote terminal. AT&T at 191-94, 196-98; WorldCom at 109-11; Covad, Joint Dec. ¶ 38. Moreover, they demonstrate – consistent with the multitude of comments that have been filed since at least October 2000 – that even in the limited instances where remote collocation may be physically possible, obtaining remote access to both the customer distribution subloop and the necessary transport to the CLEC network (*e.g.*, at its collocation in the local serving office) is both prohibitively costly and time consuming. AT&T at 195-96; WorldCom at 109-11; Covad, Joint Dec. ¶¶ 37-42; Sprint at 40-41; *see also* ALTS at 43-44. In addition, the limited availability of RT collocation is severely hampered by the ILECs' universal practice of hard-wiring copper subloops between the SAI and the RT, thereby precluding CLECs from access to those subloops without the need to construct additional remote facilities.[161]

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[160] *See* Covad at 55-56; NYPSC at 7; ALTS at 46-47; WorldCom at 109-11. Moreover, as noted by Covad, "[t]here would be a material degradation in service quality associated with denying CLECs access to [unified loops] because collocating a stand-alone DSLAM at a remote terminal creates many more points of failure and thus lowers the quality of service to the end user." Covad at 57.

[161] WorldCom at 110-11. In addition to the fact that many of the additional costs associated with RT-based collocation are entirely the result of the ILECs' own design (hardwiring, size of RT cabinets, etc.), the ILECs' comments regarding the impractability of line card collocation reinforce the CLECs' position that RT-based collocation alternatives are no substitute for a unified loop. *See* SBC at 52-53; Verizon at 92-94.

And even assuming that CLECs could gain the necessary rights of way, easements, capital and time to self-provision facilities at (or near) either the RT or the SAI, the record demonstrates that the construction and outfitting of such remote collocation is prohibitively expensive. *See, e.g.*, AT&T at 194-98; Covad at 56; Sprint at 42; WorldCom at 115. Sprint and Covad, in particular, dramatically illustrate this point by presenting two cost estimates for RT-based adjacent collocation. Covad at 56; Sprint at 42. Sprint spent more than $130,000 in SBC's territory to establish a *single* collocation arrangement next to a *single* RT, and doing so took more than twelve months. *Id.* Covad cites a cost study prepared by Qwest in which Qwest estimated that collocating in a remote terminal would cost $90,000 *per location*. Covad at 56. Using Qwest's own cost estimate (and excluding the cost of CO collocation, CLEC deployment of a packet switch at the central office, transport, and DSL modems), Covad shows that CLECs face more than a 14-year recovery period *solely* for the cost of the remote collocation. *Id.* In sharp contrast, analysts have estimated that SBC's RT-based costs associated with Project Pronto are approximately $50,000 per RT. *Broadband 2001 Report* at 69. Given this cost disparity, coupled with the ILECs huge customer base, it is not surprising that BellSouth has boasted that it can recover the *entire* incremental cost of a NGDLC upgrade within roughly one year. *See* Taking the Lead at Slide 19.

Using Qwest's figures, if one assumes that a Qwest remote DLC terminal supports an average of 332 access lines, *see RHK Report* at 12, and that a CLEC could win ten percent of the loops served by that remote terminal (or 33 loops), the CLEC would need to spend over $2700 per customer merely to construct an adjacent collocation - near or at a *single* RT, not including the cost of CO collocation (which the Commission has found to be a formidable commitment,

see UNE Remand Order ¶¶ 262-66), the cost of the CLEC's own packet switch at the ILEC's central office, the cost for subloop and transport UNEs, and DSL modem costs.[162]

This cost disparity – which, as demonstrated above, provides significant cost and timing advantages that are solely the result of the ILECs' natural monopoly – does not vary greatly from ILEC to ILEC, or within individual geographic markets. First, regardless of the location, there are always high fixed costs (for site preparation, including rights of way and easements, structure, cable, hardwire, excavation/restoral costs), as well as the costs for common control electronics and associated channel banks (if a DLC deployment is being considered) that are associated with CLEC deployment of RT/SAI collocation alternatives. As noted above, Sprint and Covad demonstrated that the cost of a single RT collocation in the SBC and Qwest regions would cost between $90,000 and $130,000.[163] The other major ILECs do not offer any cheaper alternative. For example, AT&T demonstrated that Verizon's SAI-based CLEC offering (called PARTS) is so difficult and cost prohibitive (due to high fixed construction and dedicated transport costs, inherent costs and delays associated with acquiring all necessary ROW/easements, costs and delays associated with "negotiating" provisioning intervals on an SAI-by-SAI basis) that they are of no practical use to AT&T. AT&T at 196-98.

Second, the high-fixed costs of RT/SAI collocation must be recovered solely from the base of customers addressed at the RT or the SAI. The average line size per DLC within the

[162] This is an extremely conservative assumption, since RT-based collocation is virtually never available and the ILECs are currently "offering" SAI-based collocation. Thus, a CLEC would need to construct facilities at *multiple* SAIs in order to access all of the customers served by a single RT. AT&T at 197. In addition, of course, CLECs must also bear the expense of their packet-based service networks, as well as service delivery, and customer care costs.

[163] *See also* Riolo NGDLC Dec. ¶ 81 ("[i]t would not be unusual for a CEV DLC site to cost $250,000 and cabinet sites to cost $50,000 to $100,000, excluding facility costs necessary to connect the RT to the ILEC SAI or to connect the RT to the CLEC network.")

large ILECs' regions is typically 200 to 400 lines per remote terminal. *See RHK Report* at 12-13, 17, 22.[164] Thus, the costs that the CLEC would need to spend just to construct an adjacent collocation at (or near) every RT must be amortized over a much smaller number of potential customers, *i.e.*, the fraction of customers served by the remote terminal that they might win. Although the ILECs' ubiquitous embedded network, huge customer base, and assured funding from ratepayers enable them to efficiently deploy their networks to incorporate their incremental NGDLC upgrades over their customer base, no CLEC could ever expect to match the ILECs' scale in doing the same for itself.[165] And even if a CLEC tried to do so, it faces the reality that its costs would be sunk if it failed to generate its hoped-for revenues.

As a result, it is obvious that remote collocation is always uneconomic for a CLEC -- especially when the costs of the dedicated transport required to take signals from the RT to the central office are included.[166] In sharp contrast, ILECs' loop functionality is provided on a commingled and multiplexed (*i.e.*, much more efficient) basis and the supporting facilities often reside at already existing RTs that possess transmission electronics that are easily upgraded.

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[164] In Qwest's region, the average line size per DLC in Wyoming (114), South Dakota (147), Nebraska (126), and Montana (148) is less than 200 lines per RT. In Utah (465) and Arizona (565), the average line size per DSL is greater than 400 lines per terminal. RHK Report at 13.

[165] It is also noteworthy that a DLC deployment is only practical and economic if it is nearly fully utilized. AT&T at 133-35. The ILEC can realize these necessary economies of scale because it has designed its remote terminal to efficiently serve most of the entire base of customers assigned to the remote terminal. CLECs cannot reasonably expect to achieve such scale.

[166] Such devastating economics are precisely why CLECs have not availed themselves of the RT-based alternatives "offered" by SBC and Qwest. Thus, the Commission should flatly reject ILECs' claims that the CLECs' failure to invest capital in such a losing proposition is a reason to deny CLECs access to the unified loop element. *See* SBC at 15, 51, 53; Qwest at 49.

Indeed, this is the very basis upon which the Commission earlier determined that CLECs would be substantially impaired if they were forced to use only dedicated, as opposed to dedicated and shared transmission facilities. *Shared Transport Order* ¶¶ 50-51. Here, although the subloop between an RT and an ILEC central office is clearly not shared transport, *see* AT&T *Line Sharing Recon. Order* Comments at 10-11; *see also* AT&T Comments at 193-98, the same principle applies. CLECs would face significant inefficiencies if they were forced to buy separate dedicated transport UNEs to handle the relatively small amount of traffic they would need to carry from an RT to the serving central office while the ILEC uses shared facilities to serve the same purpose.

In fact, the ILECs do not offer a shred of evidence disputing the CLECs' detailed showing that the costs of remote collocation are ruinous. Thus, their claim that CLECs do not need unbundled access to unified loops because they are free to "effectively duplicate" the ILECs' capabilities by remotely collocating their own electronics is patently false and must be rejected. *See* Verizon at 89 n.296; Qwest at 46; SBC at 53-54.

3. The Comments Reaffirm that All-Copper Loops are not a Substitute for Unbundled Access to Unified Loops.

Some equipment providers argue that it would be sufficient if all-copper standalone loops remain available in lieu of unified loop unbundling. *See* TIA at 14-15; HTBC at 4, 36 (the Commission should "draw a line" between the legacy copper loop and the facilities necessary to support advanced telecommunications services). This position should be flatly rejected, because the CLECs have clearly demonstrated – and those equipment providers clearly know or should know – that all-copper loops:

- provide an inferior level of service where they are available and employed as an alternative to unified loop access;
- may be expensive or impossible to maintain;

- raise significant quality of service issues because of interference concerns;[167] and

- represent an unwarranted use restriction upon the CLECs' access to the full functionality of an unbundled loop.

No parties seriously dispute these facts, nor could they. As the Commission has recognized, the provisioning of DSL-based services over copper wire is distance sensitive, and cannot be supported on copper loops over 18,000 feet. *See, e.g.*, *Collocation Remand Order* ¶ 96 n.243. Indeed, the ILECs are specifically implementing NGDLC in order to make DSL-based services available in places where they could not otherwise offer such services. For example, SBC's Project Pronto deployment generally shortens the copper portion of customer loops to 12,000 feet or less, which allows SBC to offer broadband xDSL services to 20 million additional customers.[168]

The mere availability of an all-copper loop in some areas – instead of the unified loops that are available to the ILECs – cannot discharge the ILECs' unbundling obligations. Wherever the ILECs have deployed NGDLC, they have necessarily *shortened* the copper loop segment to make higher bandwidth available than can be provided on an all-copper-loop – a significant quality impairment that no party can dispute. As AT&T has repeatedly demonstrated, when an ILEC deploys fiber-fed, DLC-equipped loops, CLECs simply cannot obtain an all-copper loop that will support the same transmission rates (and thus quality of service) as those available on the shorter copper runs that terminate in a remote terminal. AT&T at 200; *see also* AT&T *Fifth*

[167] AT&T at 199-202; Sprint at 43-45; WorldCom at 112-13.

[168] *See Project Pronto Waiver Order* ¶ 4. Denying CLECs access to such unified loops would permanently foreclose them from providing DSL-based services to these customers, because using an all-copper loop would not enable them to provide such services with loops of more than 18,000 feet. Similarly, in new areas where only NGDLC architecture is deployed, CLECs would not be able to access all-copper loops at all, because none exist.

NPRM Comments at 50-52, Riolo NGDLC Dec. ¶¶ 85-89; AT&T *Fifth NPRM* Reply Comments at 67; AT&T *Line Sharing Recon. Order* Comments at 20-21; AT&T *Line Sharing Recon. Order* Reply Comments at 14-15; *see also* Sprint at 44. Further, there is also no assurance that ILECs will continue to preserve and maintain all-copper loops in the future (or that the available copper has not deteriorated to the point of being unusable for DSL or similar transmission technologies).[169]

Thus, there can be no legitimate debate that CLECs are seriously impaired without access to NGDLC loops where they are deployed by the incumbent, because they cannot use "all-copper" loop facilities to provide DSL-based services that deliver performance at the same levels of quality as those provided by the ILEC. The Wisconsin PSC, after detailed review, specifically recognized these facts, stating:

- Ameritech initiated its Project Pronto network initiative specifically to overcome limitations inherent in the ability of copper loops to support advanced services to the majority of its customer base;
- [t]he significant efficiencies that Ameritech expects to obtain by replacing copper with fiber in its network . . . supports the conclusion that the existing copper loop network is insufficient to provide Digital Subscriber Loop (DSL) services to the mass markets;
- Ameritech will have an incentive to retire or simply not maintain the copper plant because it is inefficient to maintain two loop networks simultaneously;
- The *Project Pronto Waiver Order* restrictions on retiring copper plant expire in 2003;
- Using homerun copper loops to provide DSL services to CLEC customers has significant and damaging limitations;

[169] *See, e.g.*, AT&T at 199; WorldCom at 112, Stumbaugh/Reilly Dec. ¶¶ 33-34; *see also Project Pronto Waiver Order* ¶¶ 38-39 (which limits – but does not eliminate – SBC's right to retire copper until September 2003. Thereafter SBC has unfettered discretion to retire copper plant, subject only to a general notice provision).

- Potential interference issues make some homerun copper loops that were previously acceptable to carry CLEC xDSL signals, unusable for that function;

- Using homerun copper loops, CLECs will incur higher costs, experience lower or less consistent levels of quality, have less ubiquitous access to similar facilities, and encounter more troublesome operational issues.[170]

Quite simply, if the copper loop was old enough for the ILEC to retire by replacing or shortening it with DLC or NGDLC, service CLECs can provide to their customers over spare copper loops would not be at the same level the ILEC can provide to those same customers.

4. The Existence of Cable Modem Services is Irrelevant to the Question of Whether CLECs are Impaired without Access to the Unified Loop, because lack of Access to such Loops Walls off Customers and Impairs Voice Competition.

The existence of cable modem service or other intermodal competitive services is largely, if not completely, irrelevant to the question of whether AT&T and other CLECs are impaired without access to the local loop, including unified NGDLC loops. The Supreme Court required the Commission to take into consideration the existence of alternative elements outside the ILECs network. It is clear, however, that this requirement can only mean alternatives *available to the CLEC*. Thus, it is irrelevant, for example, that a cable company may be competing with the incumbent LEC if, as is virtually always the case, the requesting carrier has no ability to obtain access to the cable company's facilities for purposes of providing competing services. As

[170] Wisc. PSC Final Decision at 10-11; *see also* Texas Arb. Award at 71-72 ("[the] use of all-copper loops to provide xDSL services merely provides CLECs with an option that SWBT itself is spending billions of dollars to avoid. As xDSL is distance sensitive, provisioning over Project Pronto, where the goal for the copper portion of the loop is 12,000 ft., rather than home-run copper, provides inherent, enhanced quality. . . . In addition some areas include no spare copper. Furthermore, CLECs have no guarantee that the spare copper will remain once Pronto is ubiquitously deployed. Thus, while 'home-run' copper alternatives may be present in some situations, the Arbitrators are not convinced that these provide the same level of service viable or permanent." (citations omitted)); Ill. HFPL/LS Order at 22.

a result, the existence of cable modem services does not provide the CLEC with a cognizable alternative as defined by the Act.[171]

In all events, however, the existence of cable plant provides no additional basis for the Commission to find that CLECs are not impaired without access to unified loops. *First*, as AT&T's initial comments demonstrate, the emerging trend toward the bundling of DSL-based and voice services places CLECs at an enormous competitive disadvantage in providing voice services if they cannot also offer data services in combination with voice services. AT&T at 93-96, Willig Dec. ¶¶ 185-86. Analysts have confirmed this point, noting that "a major source of value [to the ILEC] for DSL will be the avoidance of market share loss [to facilities-based carriers] which ultimately turns DSL from an okay investment into a strong one [for the ILEC] . . . ." *Broadband 2001 Report* at 78-80. ILECs already offer bundled packages that include both local phone service plus DSL-based service, and the use of such packages by ILECs will only become more commonplace.

In AT&T's experience, ILECs are using their dominance in DSL to block CLECs' access to both DSL and voice services. For example, the ILECs have refused to provision their DSL service to customers who choose a CLEC for voice service. In addition, ILECs have required customers to subscribe to their voice service as a condition of obtaining DSL-based services. *See* AT&T at 95-96. Thus, customers who subscribe to an ILEC's DSL service (and who are among the consumers most likely to demand service bundles) are required to disconnect their existing DSL service in order to obtain the CLEC's voice service. Forcing customers to change DSL carriers as a condition of their choosing a competitive voice carrier provides an unwarranted

[171] And as shown in Part III.B. above, there is no basis to find that CLECs have the ability to duplicate cable plant themselves.

advantage in favor of the ILECs, the service providers with a 94% share of the small business/residential DSL and voice market. It also serves to prevent CLECs from serving such customers unless they too can offer a comparable voice/data package.

In particular, Verizon is currently using its monopoly power over DSL to reject AT&T's local voice migration orders. Verizon has rejected thousands of such orders in New York alone since the beginning of 2002 on the grounds that the voice line cannot be migrated to AT&T because the same line is also used to provide DSL service. In rejecting these orders, Verizon has advised that it will not process AT&T's orders for UNE-P-based voice service unless, before resubmitting the order, AT&T provides evidence of an agreement between AT&T and the DSL provider or Verizon receives a disconnect order for the customer's DSL service.[172] As there are no line splitting agreements between CLEC voice providers and ILEC DSL providers – and Verizon has recently flatly rejected all such arrangements as unworkable[173] – not because of network or ordering and provisioning, but because Verizon billing will not support it – customers who want the freedom to switch their local voice service away from an ILEC must also be willing to disconnect the ILEC's DSL service which often subjects them to significant termination penalties. And even a willing customer would have to accept that he or she would be without DSL for approximately 10 business days, because Verizon takes several days to process a disconnect and billing update and then nearly an additional week to add the CLEC's DSL to the line. SBC has taken a similar position to Verizon. In comments for a Michigan Line

[172] AT&T Comments, Case 98-C-1357, at 37-39 (NYPSC filed on June 28, 2002).

[173] *Id.*

Splitting Collaborative facilitated by the Michigan PSC, SBC also rejected any suggestion that it would voluntarily participate in a line splitting arrangement.[174]

In view of the ILECs' positions regarding DSL migration and unified loop unbundling (and without further regulatory intervention), the significant and growing number of ILEC voice customers who either subscribe to DSL service or receive voice service over an NGDLC arrangement will not be able to take advantage of local voice competition. Given the rise in demand for bundled services, the Commission cannot ignore the fact that intramodal competition for voice and data services are inextricably linked. Thus, a decision to deny CLECs unbundled access to any portion of a unified loop would significantly impair CLECs' ability to compete for local voice services.

In order to compete with these existing ILEC voice/data bundled offerings, AT&T plans to make a new voice/data offer that will include DSL-based Internet access. However, as shown in detail above, the CLECs cannot practically or economically replicate a unified loop or remotely access copper subloops to provide these bundled services. The existence of cable modem services is, of course, irrelevant in this context, because, except in very limited areas, cable companies do not provide voice service, and even when they do, they do provide third parties cost-based access to their networks for the provision of bundled voice and data services. *See supra* Part III.B.

Critically, AT&T demonstrated that it can only roll out its innovative voice/data offering if it is able to access the entire spectrum of its customers' loops, including "unified" ILEC loops. Moreover, providing both voice and DSL-based services over the same ILEC-owned loop may

[174] Supplemental Comments of SBC Ameritech Michigan, Case No. U-12320, at 7-11 (Mich. PSC filed June 17, 2002).

be the only means of profitable facilities-based entry to serve residential customers. It is also the only way AT&T could offer the service to customers in many areas of the country at this time.

Second, intramodal competition is vital to creating a truly competitive market for DSL-based services. The Commission itself has recognized that the existence of data CLECs was a key factor in spurring ILECs to offer DSL-based services in the first place (*First Section 706 Report* ¶ 42), rather than rely on the comfortable profitability of second lines.[175]

Using cable modem services as a stalking horse to eliminate the intramodal competition ignores important distinctions between ILECs, on one hand, and CLECs and cable companies on the other, including their respective market power and assumed risk. These distinctions are embodied in the structure of the 1996 Act, which requires ILECs, and only ILECs, to unbundle their networks and offer interconnection at any technically feasible point. 47 U.S.C. § 251(c). More important, the legislative history reflects that Congress knew and understood the emerging technologies that were being developed and deployed by ILECs, wireless companies and cable companies when it required the ILECs to unbundle their networks.[176] If Congress believed that cable and wireless competition alone would be sufficient to constrain ILEC market power, it

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[175] According to one analyst, SBC estimates that at least one-half of its customers with second lines disconnect those lines when they subscribe to DSL, while Verizon estimates the number is closer to three-quarters. *Goldman Sachs Report* at 15.

[176] *See, e.g.*, 141 Cong. Rec. H8284 (daily ed. Aug. 2, 1995) (statement of Rep. Fields) ("Since Alexander Graham Bell invented the telephone, this is only the second time the Government has focused and dealt with telecommunication policy. The first time was 61 years ago in the 1934 Communication Act when our country utilized radio, telegraph, and telephone technology. The Congressmen and Senators in 1934 could not have envisioned the technology that we enjoy today. They could not have envisioned the advantages of digital over analog transmission. They could not have envisioned that clear voice transmission, along with data and video, could be accomplished without a wire. They could not believe that you could digitally compress and transmit as much as six times the current broadcast signal with the same or enhanced video capabilities.").

would merely have required ILECs to provide interconnection. In fact, however, Congress considered and rejected a "regulatory parity" proposal prior to the enactment of the 1996 Act.[177] Ignoring these differences and prematurely deregulating monopoly incumbent LECs would enable them to leverage their control over voice services into continued dominance in the provision of broadband services.

Third, the competition available from cable providers at most creates a market with only two broadband competitors, which does not place significant competitive discipline on retail pricing. Indeed, the market reality is that ILECs were able to raise the retail price for DSL service immediately after they drove most data CLECs out of the market. Thus, the ILECs' mixed financial incentives, combined with a lack of price competition from cable companies, have not benefited consumers with lower prices. AT&T at 43. Indeed, ILEC executives have only recently argued that DSL prices need to be increased.[178] Notably, however, Covad's recent attempts to renew its marketing of line shared services are tied to its plan's offer of *lower* consumer prices.[179] Thus, the Commission's delay in assuring CLEC access to unified loops has

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[177] *See, e.g., Stevens Draft Includes 'Title VII' Provision; Senator Hopes to Include Language in Other Bills*, Telecommunications Report, Apr. 18, 1994, at 1-2; *White House Working to Include 'Title VII' in Telecom Bills; Hollings Says Provision 'Isn't Realistic At This Time*, Telecommunications Report, Feb. 28, 1994, at 4-6. Under one version of this proposed framework, all providers of "advanced" services would have been subject to similar access and interconnection obligations. *See NARUC Adopts Package of Legislative Resolutions to Guide Negotiations on Fast-Moving Telecom Bills*, Telecommunications Report, Mar. 7, 1994, at 10-15 (describing specifics of proposed Title VII and NARUC's opposition thereto).

[178] *See* Vikas Bajaj, *Phone, Broadband Prices Too Low, Verizon Exec Says*, The Dallas Morning News (June 5, 2002) (quoting Verizon vice chairman and president Lawrence T. Babbio, Jr. as stating that digital subscriber lines "should be 40 percent to 50 percent more expensive") (available at http://dsl.newstrove.com/).

[179] *See* Teri Rucker, *Lawmakers Tout Covad Move As Healthy Competition*, National Journal (June 19, 2002) (discussing Covad's decision to lower prices for residential DSL service), (continued . . .)